REFPLUS®

TECHNICAL CATALOGUE



UDA



USA/USE

UDA & USA/USE

REACH-IN EVAPORATORS

LOW-NOISE FAN MOTORS

R1

EUROLINE REACH-IN EVAPORATORS


RefPlus

Table of contents

NOMENCLATURE 5
TEMPERATURE & CAPACITY RANGES 5
SPECIFICATIONS 5
CAPACITY TABLE - UDA (AIR DEFROST) 6
CAPACITY TABLE - USA (AIR DEFROST) 7
CAPACITY TABLE - USE (ELECTRIC DEFROST) 8
FACTOR TABLES 9
UNIT DIMENSIONS 10
WIRING DIAGRAMS 12

DESIGN IT, WE'LL BUILD IT.

Although this catalogue gives precise and useful product description and capabilities, we recommend the use of our **Nomis** software for a more accurate and up-to-date selection.

Nomis is a web-based refrigeration equipment selection and configuration platform. It can be used from your desktop computer, laptop, tablet or smart-phone. Request a Nomis access and discover just how easy it is to find the right equipment for your needs. Simply select an evaporator from our myriad choices, and then add the options that are right for your project. All technical and pricing information is updated continuously and is right there, at your finger tips.



DESIGN YOUR OWN EVAPORATOR

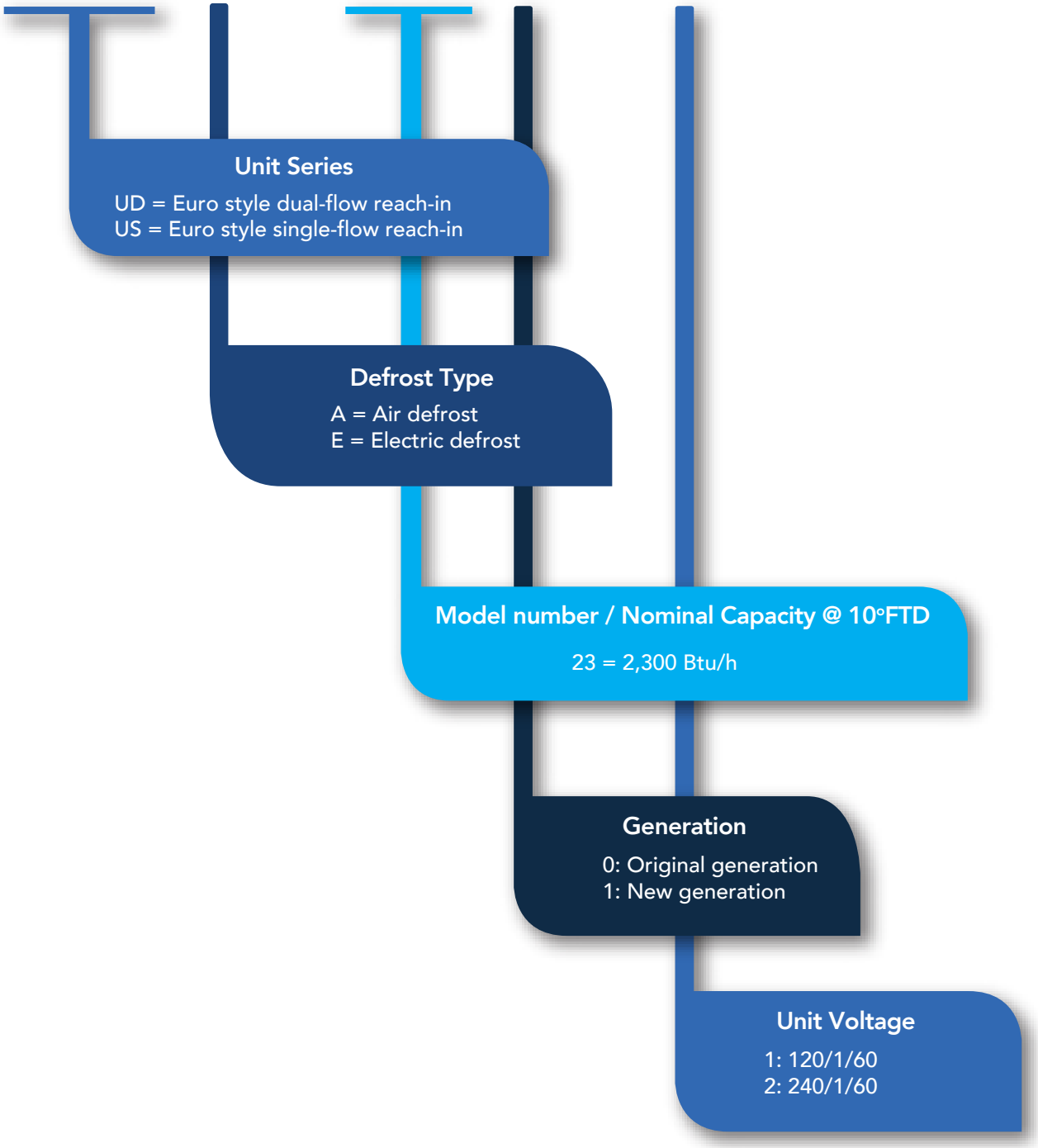
This easy-to-use product selector allows you to build your evaporator the way you want it:

1. Select Base Configuration
2. Select Options
3. Select Accessories
4. Get a complete quote with prices

You can Print, Email or Share your personalized custom quote as well as select your nearest dealer so they can follow up with you directly.

To request a Nomis Access, simply go to www.refplus.com and click on Tools.

UDA-231-1


Unit Series
UD = Euro style dual-flow reach-in
US = Euro style single-flow reach-in
Defrost Type
A = Air defrost
E = Electric defrost
Model number / Nominal Capacity @ 10°FTD
23 = 2,300 Btu/h
Generation
0: Original generation
1: New generation
Unit Voltage
1: 120/1/60
2: 240/1/60

Temperatures & Capacity Ranges

UDA | **FOR COOLING ABOVE +34°F**

CAPACITY (AT HIGH SPEED) FROM 940 to 3,340 BTU/HR/10°F TD

USA | **FOR COOLING ABOVE +34°F**

CAPACITY (AT HIGH SPEED) FROM 1040 to 5,640 BTU/HR/10°F TD

USE | **FOR COOLING & FREEZING FROM -20°F TO +34°F**

CAPACITY (AT HIGH SPEED) FROM 1040 to 5,640 BTU/HR/10°F TD

For operation outside the temperature ranges listed above, please contact RefPlus sales support.

Specifications

UDA series are ceiling-mounted, dual-coil construction reach-in evaporators. Fans draw air upward through the fan guard and discharge it through each evaporator coil for an equal air distribution on both sides of the unit. These models are equipped with air defrost.

USA and **USE** series are ceiling-mounted, single-coil construction reach-in evaporators. Fan draws air through the fan guards and discharge it through the evaporator coil at the rear end of the unit. **USA** models are equipped with air defrost while **USE** are provided with electric defrost.

All reach-in units are of modular design using a minimum number of parts to simplify replacement and to reduce inventory.

All models have coils that are manufactured with seamless deoxidized heavy-wall smooth copper tubes and aluminum plate fins. For maximum heat transfer, tubes are mechanically expanded into self-spaced plate fins with full collar for a permanent bond. Connections and bends are brazed with a high-temperature brazing alloy. Coils are factory leak tested at 300 psig and purged with a -40°F dew point dry air. Coils are circuited for HCFC and HFC refrigerants.

Casings are made of heavy-gauge white powder coated textured aluminum. Both series meet or exceed the A.A.M.A 2603 standard for coatings.

All hardware is made from stainless steel or plated for a light weight and corrosion-free assembly. They are provided with a universal thermostat-mounting bracket.

All units are provided with a removable 1/2" O.D. aluminum drain fitting.

Coil ends are treated with a special coating for optimal protection against corrosion.

All models are equipped with heavy-duty 3-speed EC fan motor(s) for long life and dependable service. Units are factory set to high speed (1400 RPM), but can be field changed to low (700 RPM) or medium speed (1050 RPM) (will reduce BTH/H).

NOTE: Fans should only be set to low speed (700 RPM) when compressor is not running. Unit with fan(s) set to 700 RPM will not cool down room properly and should only be used for air circulation.

These motors are permanently lubricated, totally enclosed and thermally protected. They are available for 120/1/60 or 240/1/60. Contact RefPlus sales for 50 Hz.

Fan guards are injection-molded polymers for consistency of dimensions and full protection of moving parts.

Hubless fan blades are stamped aluminum for light weight. Fan assembly is balanced for smooth and vibration-free operation.

All motors are IP66 rated. Units in this series are compliant to North American product safety standards and required sanitation standards and can bear the ETL Listed & ETL Sanitation Listed Marks.

UDA - AIR DEFROST — FOR COOLING ABOVE +34°F

MODEL	CFM @ 1050 RPM	CAPACITY (MBH) FOR R-448A (>85% RH) @ 1050 RPM				CFM @ 1400 RPM	CAPACITY (MBH) FOR R-448A (>85% RH) @ 1400 RPM			
		8°FTD	10°FTD	12°FTD	15°FTD		8°FTD	10°FTD	12°FTD	15°FTD
UDA-101	190	0.72	0.90	1.08	1.35	230	0.75	0.94	1.13	1.41
UDA-131	177	0.94	1.18	1.41	1.77	215	1.09	1.36	1.63	2.04
UDA-151	165	1.06	1.33	1.59	1.99	200	1.26	1.57	1.88	2.36
UDA-181	157	1.26	1.58	1.89	2.37	190	1.50	1.88	2.26	2.82
UDA-231	330	1.61	2.02	2.42	3.03	400	1.92	2.40	2.88	3.60
UDA-281	314	1.95	2.44	2.93	3.66	380	2.26	2.82	3.38	4.23
UDA-331	301	2.36	2.95	3.54	4.43	365	2.67	3.34	4.01	5.01

MODEL	MOTOR QTY	120/1/60 FAN MOTOR			240/1/60 FAN MOTOR			CONNECTION (INCHES)		R-448A OPERATING CHARGE (LB.)	STOCK UNIT SHIPPING WEIGHT (LB.)
		FLA	MCA	FUSE	FLA	MCA	FUSE	DISTRIBUTOR INLET F.N.	SUCTION O.D.		
UDA-101	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	0.39	15
UDA-131	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	0.58	16
UDA-151	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	0.78	18
UDA-181	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	0.93	19
UDA-231	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	0.83	19
UDA-281	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	1.12	20
UDA-331	1	0.70	0.88	15	0.4	0.5	15	1/2	3/8	1.41	23

Notes:

- Capacities are for R-448A. For other refrigerants, please refer to the refrigerant factor table on page 9.
- Operating charge based on 30% liquid, 70% vapour at 25°F suction.
- Connection sizes are for standard units. They may vary based on selected applications and options.
- Use suffix 1 for 120/1/60, suffix 2 for 240/1/60.
- Use suffix 2 and multiply capacity by 0.92 for 200-220/1/50.
- CFM values are nominal.

USA - AIR DEFROST — FOR COOLING ABOVE +34°F

MODEL	CFM	CAPACITY (MBH) FOR R-448A (>85% RH)				MOTOR QTY	120/1/60 FAN MOTOR			240/1/60 FAN MOTOR			CONNECTION (INCHES)		R-448A OPERATING CHARGE (LB.)	STOCK UNIT SHIPPING WEIGHT (LB.)
		8°FTD	10°FTD	12°FTD	15°FTD		FLA	MCA	FUSE	FLA	MCA	FUSE	DISTRIBUTOR INLET F.N.	SUCTION O.D.		
USA-101	160	0.83	1.04	1.25	1.56	1	0.70	0.88	15	0.40	0.50	15	1/2	3/8	0.44	14
USA-131	150	1.09	1.36	1.63	2.04	1	0.70	0.88	15	0.40	0.50	15	1/2	3/8	0.54	14
USA-151	180	1.26	1.57	1.88	2.36	1	0.70	0.88	15	0.40	0.50	15	1/2	3/8	0.68	17
USA-181	210	1.50	1.88	2.26	2.82	1	0.70	0.88	15	0.40	0.50	15	1/2	3/8	0.80	18
USA-231	330	1.92	2.40	2.88	3.60	2	1.40	1.58	15	0.80	0.90	15	1/2	3/8	0.83	20
USA-281	320	2.34	2.92	3.50	4.38	2	1.40	1.58	15	0.80	0.90	15	1/2	3/8	1.24	20
USA-331	360	2.76	3.45	4.14	5.18	2	1.40	1.58	15	0.80	0.90	15	1/2	3/8	1.56	22
USA-421	560	3.67	4.59	5.51	6.89	3	2.10	2.28	15	1.20	1.30	15	1/2	3/8	1.32	37
USA-501	540	4.51	5.64	6.77	8.46	3	2.10	2.28	15	1.20	1.30	15	1/2	5/8	2.00	39

Notes:

- Capacities are for R-448A. For other refrigerants, please refer to the refrigerant factor table on page 9.
- Operating charge based on 30% liquid, 70% vapour at 25°F suction.
- Connection sizes are for standard units. They may vary based on selected applications and options.
- Use suffix 1 for 120/1/60, suffix 2 for 240/1/60.
- Use suffix 2 and multiply capacity by 0.92 for 200-220/1/50.
- CFM values are nominal.

USE - ELECTRIC DEFROST FOR COOLING & FREEZING FROM -20°F TO +34°F

CAPACITIES

MODEL	MOTOR QTY	CFM	CAPACITY (MBH) FOR R-448A (>85% RH)				CONNECTION (INCHES)		R-448A OPERATING CHARGE (LB.)	STOCK UNIT SHIPPING WEIGHT (LB.)
			8°FTD	10°FTD	12°FTD	15°FTD	DISTRIBUTOR INLET F.N.	SUCTION O.D.		
USE-101	1	160	0.83	1.04	1.25	1.56	1/2	3/8	0.41	14
USE-131	1	150	1.09	1.36	1.63	2.04	1/2	3/8	0.51	14
USE-151	1	180	1.26	1.57	1.88	2.36	1/2	3/8	0.63	17
USE-181	1	210	1.50	1.88	2.26	2.82	1/2	3/8	0.71	18
USE-231	2	330	1.92	2.40	2.88	3.60	1/2	3/8	0.73	20
USE-281	2	320	2.34	2.92	3.50	4.38	1/2	3/8	1.15	20
USE-331	2	360	2.76	3.45	4.14	5.18	1/2	3/8	1.44	22
USE-421	3	560	3.67	4.59	5.51	6.89	1/2	3/8	1.19	37
USE-501	3	540	4.51	5.64	6.77	8.46	1/2	5/8	1.85	39

ELECTRICAL

MODEL	MOTOR QTY	120/1/60							240/1/60						
		FAN MOTOR			HEATER				FAN MOTOR			HEATER			
		FLA	MCA	FUSE	KW	FLA	MCA	FUSE	FLA	MCA	FUSE	KW	FLA	MCA	FUSE
USE-101	1	0.70	0.88	15	0.64	5.33	6.66	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
USE-131	1	0.70	0.88	15	0.64	5.33	6.66	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
USE-151	1	0.70	0.88	15	0.80	6.67	8.34	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
USE-181	1	0.70	0.88	15	0.96	4.00	5.00	15	0.40	0.50	15.00	0.96	4.00	5.00	15
USE-231	2	1.40	1.58	15	1.28	10.67	13.34	15	0.80	0.90	15.00	1.28	5.33	6.66	15
USE-281	2	1.40	1.58	15	1.28	10.67	13.34	15	0.80	0.90	15.00	1.28	5.27	6.59	15
USE-331	2	1.40	1.58	15	1.28	10.67	13.34	15	0.80	0.90	15.00	1.28	5.27	6.59	15
USE-421	3	2.10	2.28	15	1.60	13.33	16.66	20	1.20	1.30	15.00	1.60	6.67	8.34	15
USE-501	3	2.10	2.28	15	1.60	13.33	16.66	20	1.20	1.30	15.00	1.60	6.67	8.34	15

Notes:

- Capacities are for R-448A. For other refrigerants, please refer to the refrigerant factor table on page 9.
- Operating charge based on 30% liquid, 70% vapour at 25°F suction.
- Connection sizes are for standard units. They may vary based on selected applications and options.
- Use suffix 1 for 120/1/60, suffix 2 for 240/1/60.
- Use suffix 2 and multiply capacity by 0.92 for 200-220/1/50.
- CFM values are nominal.

FACTOR TABLES BASED ON R-448A DATA

CAPACITY CONVERSION FACTOR FOR OTHER REFRIGERANTS

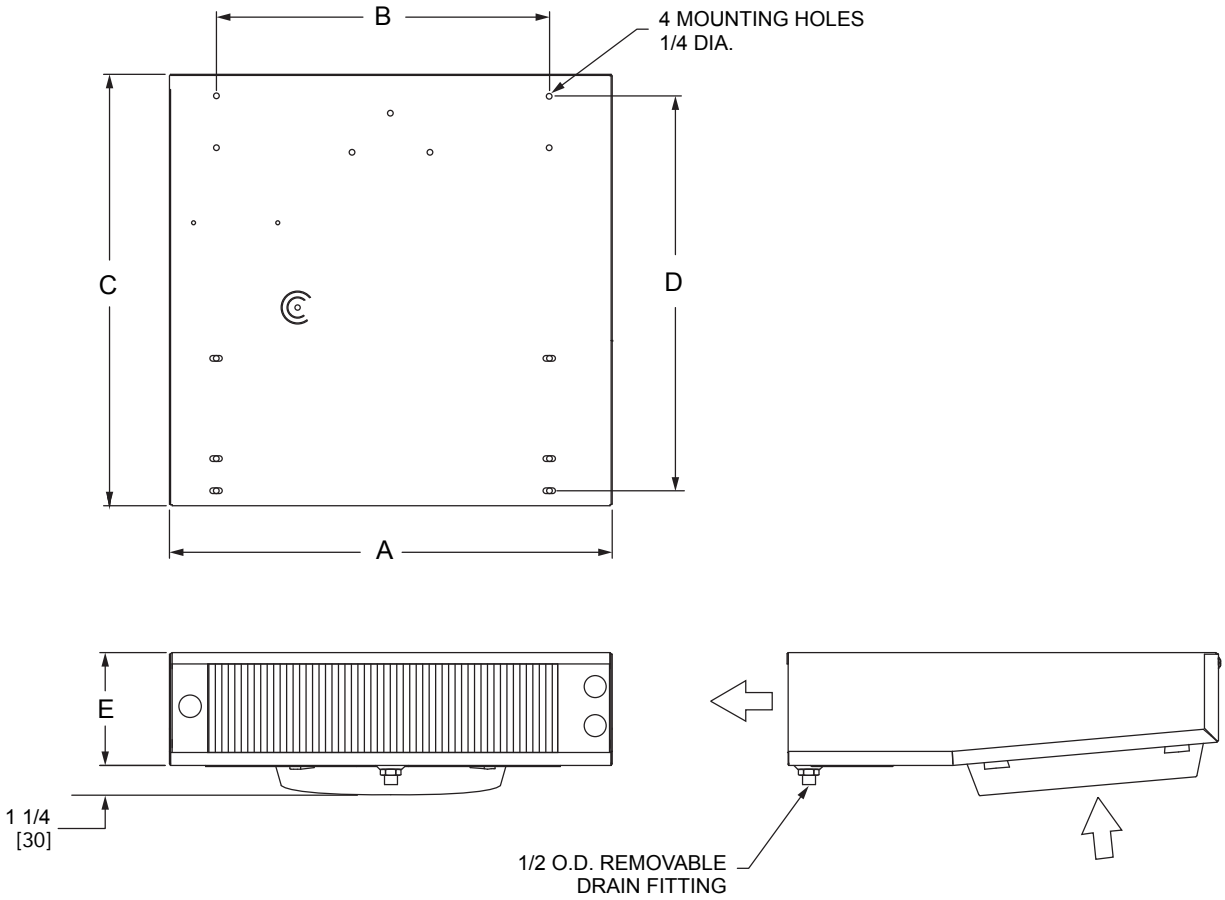
REFRIGERANT	FACTOR
R-404A	0.958
R-410A	1.053
R-22	0.976
R-134A	0.869
R-407F	1.008
R-407A	0.988
R-407C	0.988
R-449A	0.997
R-450A	0.810
R-513A	0.914

OPERATING CHARGE CONVERSION FACTOR FOR OTHER REFRIGERANTS

REFRIGERANT	FACTOR
R-404A	0.945
R-410A	0.960
R-22	1.029
R-134A	1.026
R-407F	1.000
R-407A	1.000
R-407C	1.000
R-449A	1.000
R-450A	1.026
R-513A	1.026

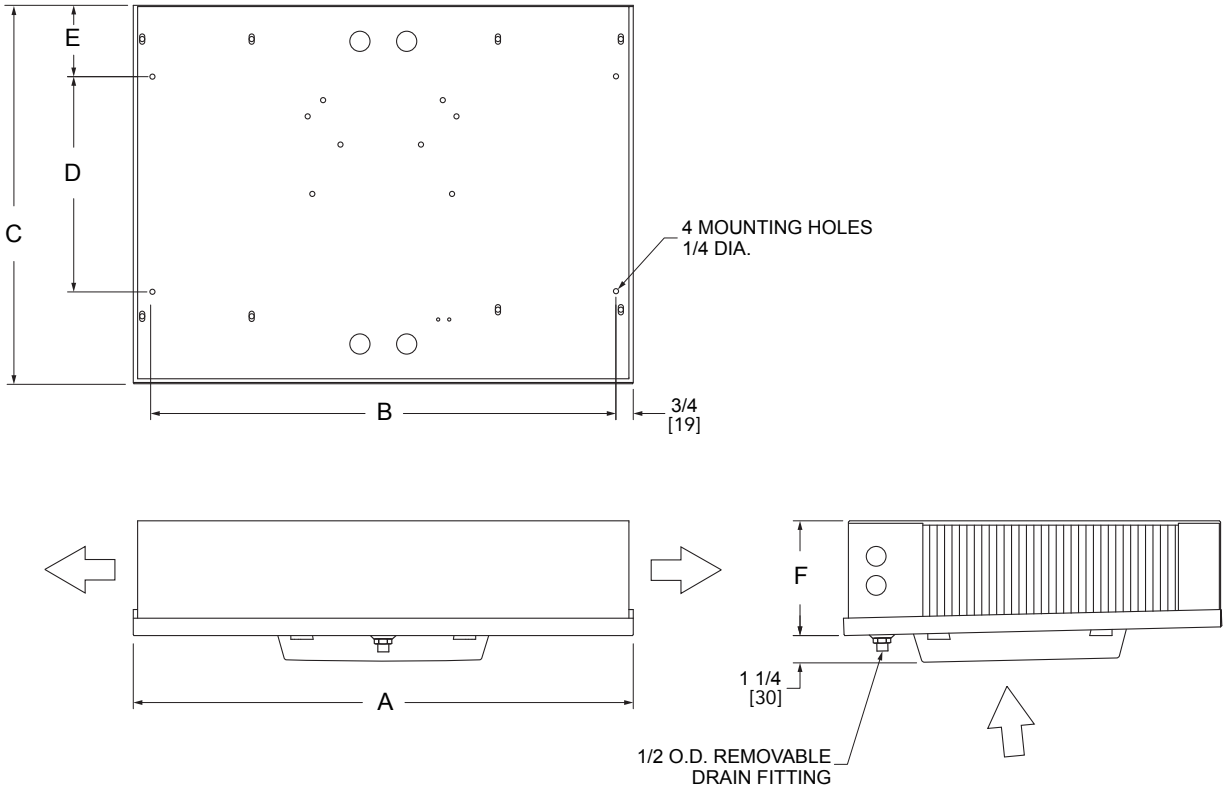
Note: For R744 (CO_2) application, please contact RefPlus Sales.

Notes: Capacity might slightly differ from Nomis (negligible difference).



MODEL	UNIT DIMENSIONS (INCHES [MM])				
	A	B	C	D	E
USA/USE-101	17 [434]	12 3/4 [326]	16 3/4 [423]	15 1/4 [387]	4 1/4 [110]
USA/USE-131	17 [434]	12 3/4 [326]	16 3/4 [423]	15 1/4 [387]	4 1/4 [110]
USA/USE-151	21 1/2 [548]	17 1/4 [441]	16 3/4 [508]	15 1/4 [387]	4 1/4 [110]
USA/USE-181	25 1/2 [650]	21 1/4 [542]	16 3/4 [508]	15 1/4 [387]	4 1/4 [110]
USA/USE-231	33 1/2 [853]	29 1/2 [746]	16 3/4 [508]	15 1/4 [387]	4 1/4 [110]
USA/USE-281	33 1/2 [853]	29 1/2 [746]	17 1/2 [445]	16 1/4 [410]	4 1/4 [110]
USA/USE-331	33 1/2 [853]	29 1/4 [745]	17 1/2 [445]	16 1/4 [410]	5 1/4 [136]
USA/USE-421	43 1/2 [1107]	39 1/4 [999]	17 1/2 [445]	16 1/4 [410]	5 1/4 [136]
USA/USE-501	43 1/2 [1107]	39 1/4 [999]	17 1/2 [445]	16 1/4 [410]	5 1/4 [136]

ALL DIMENSIONS ARE FOR REFERENCE ONLY.
MAY VARY ON ACTUAL UNIT.

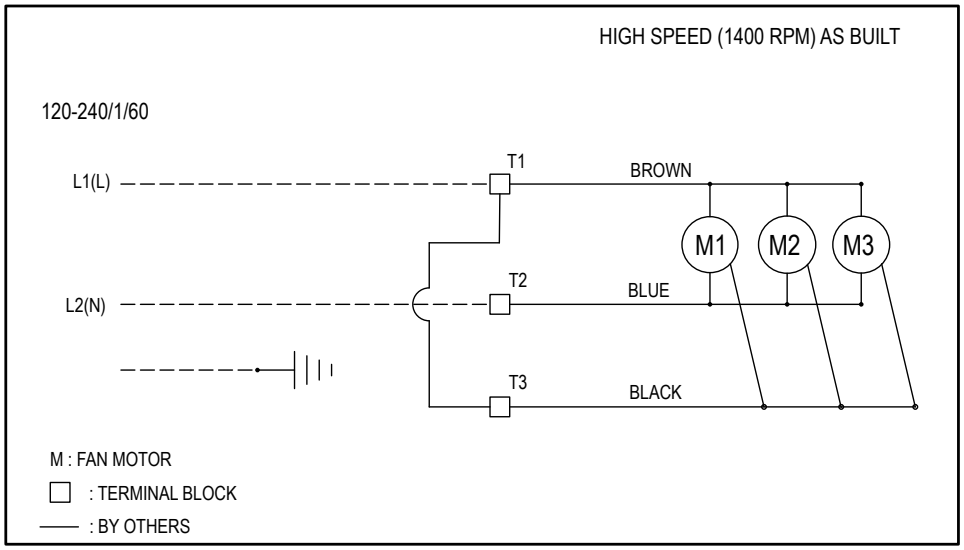


MODEL	UNIT DIMENSIONS (INCHES [MM])					
	A	B	C	D	E	F
UDA-101	21 1/2 [546]	20 [508]	16 1/4 [413]	9 1/4 [235]	3 [78]	5 [125]
UDA-131	21 1/2 [546]	20 [508]	16 1/4 [413]	9 1/4 [235]	3 [78]	5 [125]
UDA-151	21 1/2 [546]	20 [508]	16 1/4 [413]	9 1/4 [235]	3 [78]	5 [125]
UDA-181	21 1/2 [546]	20 [508]	16 1/4 [413]	9 1/4 [235]	3 [78]	5 [125]
UDA-231	23 [582]	21 3/4 [550]	19 1/4 [489]	12 1/4 [311]	3 1/2 [87]	6 [150]
UDA-281	23 [582]	21 3/4 [550]	19 1/4 [489]	12 1/4 [311]	3 1/2 [87]	6 [150]
UDA-331	23 [582]	21 3/4 [550]	19 1/4 [489]	12 1/4 [311]	3 1/2 [87]	6 [150]

ALL DIMENSIONS ARE FOR REFERENCE ONLY.
MAY VARY ON ACTUAL UNIT.

UDA, USA

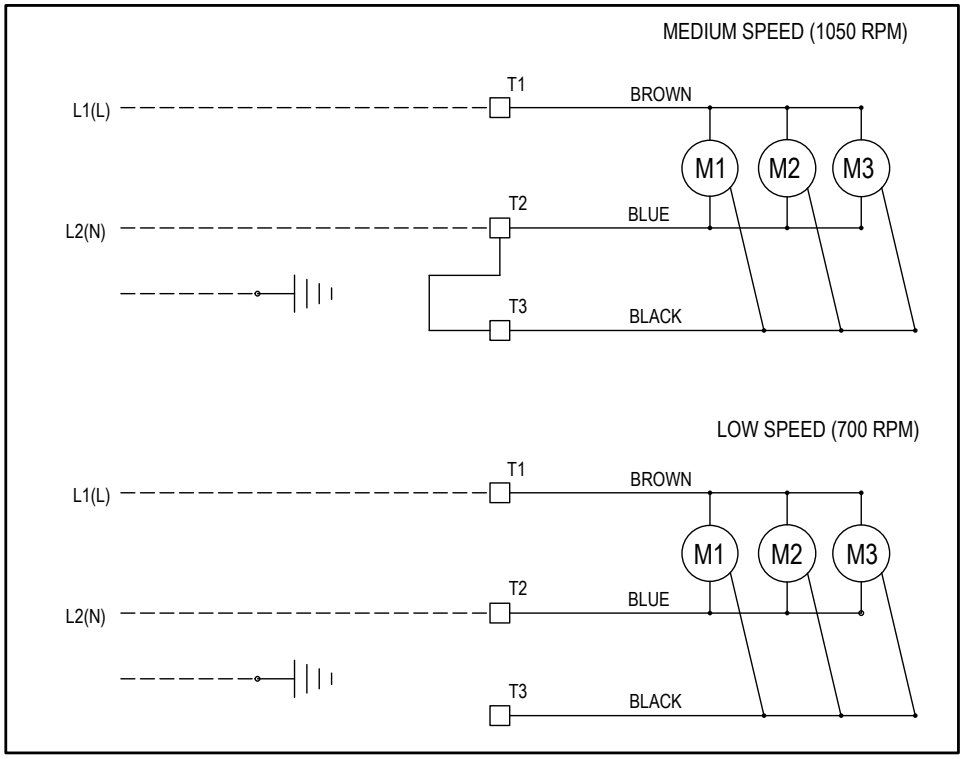
USE COPPER CONDUCTOR ONLY



WE10002

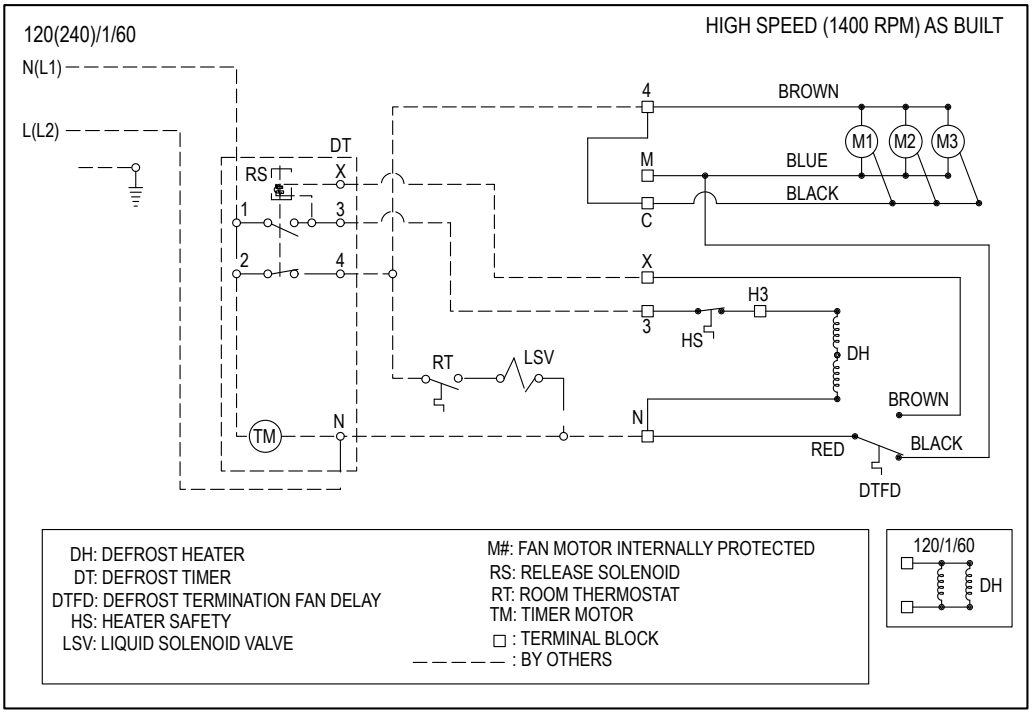
SPEED OPTION

USE COPPER CONDUCTOR ONLY

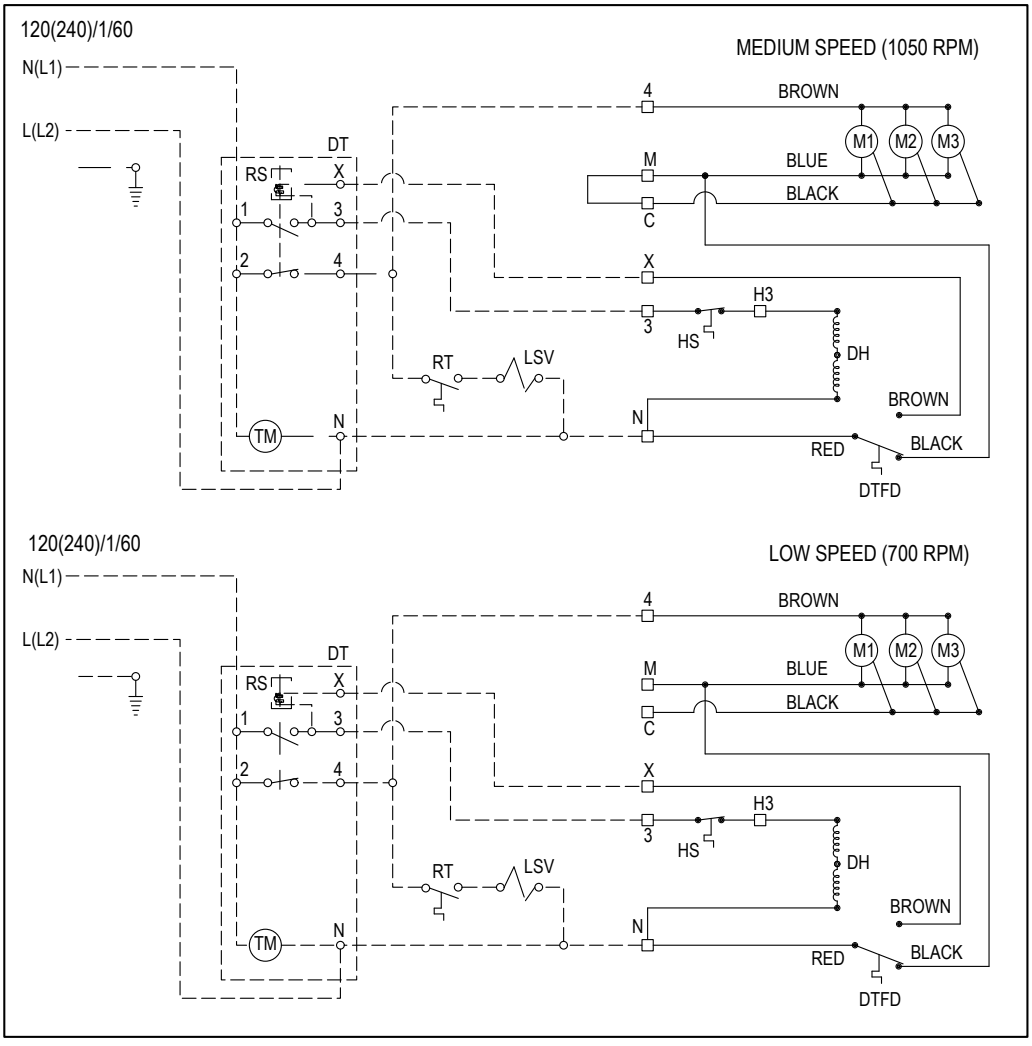


USE

USE COPPER CONDUCTOR ONLY



SPEED OPTIONS



Combine your selected unit with the Guardian+ Smart Evaporator Controller to have an EcoEfficient+ system and optimize your energy efficiency.

ecoefficient+

cityquiet zeroleak smartpower

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